

Claims:

What is claimed is:

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1. A method for neutralizing odor contained within the headspace of a product packaging comprising the steps of:

- a) formulating a blend of differently modified high surface area materials;
- b) applying the blend of differently modified high surface area materials to the inside of a product packaging.

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2. The method of claim 1 further including the step of sealing the product packaging so as to maintain the environment inside the product packaging.

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3. The method of claim 1 wherein the differently modified high surface area materials comprise metal modified nanoparticles.

4. The method of claim 1 wherein the step of applying is comprised of applying the blend to an insert which is then placed within the product packaging.

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5. The method of claim 1 wherein the step of applying is comprised of applying the blend to an inside surface of the product packaging.

6. The method of claim 1 wherein the step of applying is comprised of applying the blend to a portion of the product contained in the product packaging.

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7. A method for neutralizing odor contained within the headspace of a product packaging comprising the steps of:

- a) formulating a blend of modified and unmodified high surface area materials;
- b) applying the blend of modified and unmodified high surface area materials to the inside of a product packaging.

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8. The method of claim 7 further including the step of sealing the product packaging so as to maintain the environment inside the product packaging.

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9. The method of claim 7 wherein the modified and unmodified high surface area materials comprise unmodified and modified nanoparticles.
- 5 10. The method of claim 7 wherein the step of applying is comprised of applying the blend to an insert which is then placed within the product packaging.
11. The method of claim 7 wherein the step of applying is comprised of applying the blend to an inside surface of the product packaging.
- 10 12. The method of claim 7 wherein the step of applying is comprised of applying the blend to a portion of the product contained in the product packaging.
13. A method for neutralizing odor contained within the headspace of a product packaging comprising the steps of:
- 15 a) formulating a blend of unmodified and at least two differently modified high surface area materials;
- b) applying the blend of modified and unmodified high surface area materials to the inside of a product packaging.
- 20 14. A method for neutralizing odor contained within the headspace of product packaging for a rolled paper product containing a core, comprising the steps of:
- a) formulating a blend of either modified and unmodified high surface area materials or differently modified high surface area materials;
- b) providing a core containing rolled paper product;
- 25 c) applying the blend of modified and unmodified high surface area materials to the inside surface of the core containing rolled paper product;
- d) enclosing the core containing rolled paper product within a product packaging.
- 30 15. An insert for inclusion within product packaging including a blend of differently modified high surface area materials.
16. The insert of claim 15 wherein said high surface area materials are nanoparticles.
- 35 17. An insert for inclusion within product packaging including a blend of modified and unmodified high surface area materials.

18. The insert of claim 17 wherein said high surface area materials are nanoparticles.
19. A method for producing a packaged product which neutralizes head space odors  
5 contained within the product packaging comprises the steps of :  
a) providing a product to be packaged;  
b) packaging said product within a packaging material along with a blend of  
either modified and unmodified high surface area materials or a blend of  
differently modified high surface area materials; and  
10 c) enclosing said product within said packaging material.
20. The method of claim 19, wherein said blend is applied to an insert and said insert  
is enclosed with said product in said packaging.
- 15 21. The method of claim 19, wherein said packaging material has an inside surface  
and said blend is applied to the inside surface of said packaging material.
22. The method of claim 19, wherein said blend is enclosed with said product in said  
product packaging by being associated with said product.
- 20 23. A packaged product produced by the method of claim 19.
24. A package containing a product comprising:  
a product;  
25 packaging material which encloses said product within an enclosure formed by  
the packaging material; and  
a blend of differently modified nanoparticles contained within said packaging  
material enclosure;  
whereby as odor or gas is generated within said enclosure, it is either adsorbed  
30 or absorbed by said blend.
25. The package of claim 24 wherein said blend is contained on an insert which is  
positioned within said enclosure
- 35 26. The package of claim 24 wherein said enclosure has an inside surface and an  
outside surface, and said blend is applied to the enclosure inside surface.

27. The package of claim 24 wherein said blend is applied to a portion of said product contained in said enclosure.
- 5        28. A package containing a product comprising:  
a product;  
packaging material which encloses said product within an enclosure formed by the packaging material; and  
a blend of modified and unmodified nanoparticles contained within said  
10       packaging material enclosure;  
whereby as odor or gas is generated within said enclosure, it is either adsorbed or absorbed by said blend.
- 15       29. The package of claim 28 wherein said blend is contained on an insert which is positioned within said enclosure.
30. The package of claim 28 wherein said enclosure has an inside surface and an outside surface, and said blend is applied to the enclosure inside surface.
- 20       31. The package of claim 28 wherein said blend is applied to a portion of said product contained in said enclosure.
- 25       32. A method for neutralizing odor contained within the headspace of a product packaging comprising the steps of:  
a) formulating a blend of differently modified high surface area materials, modified and unmodified high surface area materials, different unmodified high surface area materials or a combination thereof;  
b) applying the blend of high surface area materials to the inside of a product packaging.  
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33. A package containing a product comprising:  
a product;  
packaging material which encloses said product within an enclosure formed by the packaging material; and

a blend of either modified and unmodified nanoparticles, differently modified nanoparticles, different unmodified nanoparticles or a combination thereof, said blend contained within said packaging material enclosure;

5 whereby as odor or gas is generated within said enclosure, it is either adsorbed or absorbed by said blend.

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